OXC-6662-64
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24 March 1964

MEMORANDUM FOR THE RECORD

SUBJECT: Visit to M-H, Minneapolis
on 17 March 1964

1. The following specific subjects were discussed in detail:

a. Mach trim schedule - The data has been collected for the new schedule and a new pot will be installed in the Air Data Computer in aircraft #121. This will be done in the field. This modification is not a safety of flight item, only pilots' preference.

b. Mach hold - Aircraft #121 and #129 have been instrumented to collect data which will be used to smooth out the roller coaster effect during Mach hold. They will attempt to lengthen the period of the oscillation which will, in turn, minimize the effect. M-H has been waiting for higher and faster flights before beginning this investigation.

c. With regard to the above, one basic problem must be recognized. As of now there are no aft c.g. data available, but all systems must be designed for the aft c.g. condition. M-H wants to proceed slowly on changing trimmers on systems because of pilot complaints until we have experience throughout the entire flight range.

d. Power transients causing SAS disengagement - This condition only exists on aircraft #127 and appears to take place because the inverters are susceptible to power transients when switching from one load to another. This is being corrected in the field by adding additional capacitance in the logic circuit. All others may be modified accordingly after further tests if the inverters prove to be marginal.

e. Fail safety testing - The concept of fail safety is becoming more important as the flight envelope is extended. The logic disengages the circuits, and therefore, it must be certain that the time constants are short enough to disengage before any serious damage, i.e., before the "g's" build up too high. Since the logic in the system is based on the simulator tests, we must set up a flight test program to check the critical points. Such a program has been discussed with Lockheed, and will be conducted after the more immediate problems have been solved. However, aircraft #1001 will conduct a similar test in about one month and much of the data will be valid for the A-12.

25X1A f. Roll monitor - The first unit is completed and has been delivered to [redacted] for installation in #127. The second unit will be ready in approximately one week with the third to follow by 11 April. The ECA wiring and the new 25X1A panel are done at M-H and the vehicle wiring is to be done at [redacted] M-H considers this a safety of flight item although LAC disagrees. In any event, all agree it should 25X1A be expedited and [redacted] LAC, has agreed to do so.

g. Rigid yaw dampers - These are now working in aircraft #121, #122, and #129. M-H was originally going to phase this modification in with the roll monitor, but after 25X1 discussions with [redacted] he has agreed to modify the other aircraft as soon as practicable since this modification is completely independent of the roll monitor.

h. Self test gyro package - M-H discovered that the wrench used for mechanically self testing the gyros bent the cable and is unsatisfactory. They have now developed an electrical self tester which has worked very well at the plant. It will be sent to [redacted] for check-out. 25X1A

25X1A [redacted]

Aircraft Systems Division
(Special Activities)